STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

April 7, 2014

Mr. David Puzan, Plant Manager
Signal Mountain Cement Company d/b/a Buzzi Unicem USA.com
1201 Suck Creek Road
Chattanooga, TN 37405

Subject: **Draft of NPDES Permit No. TN0001830**
Signal Mountain Cement Co. dba Buzzi Unicem USA
Chattanooga, Hamilton County, Tennessee

Dear Mr. Puzan:

Enclosed please find a draft copy of the NPDES permit which the Division of Water Resources (the division) proposes to issue. This draft copy is furnished to you solely for your review of its provisions. This permit authorizes no wastewater discharges. The issuance of an official permit is contingent upon your meeting all of the requirements of the Tennessee Water Quality Control Act and the Rules and Regulations of the Water Quality, Oil and Gas Board.

Also enclosed is a copy of the public notice that announces our intent to issue this permit. The notice affords the public an opportunity to review the draft permit and, if necessary, request a public hearing on this issuance process. If you disagree with the provisions and requirements contained in the draft permit, you have thirty-five days from the date of this correspondence to notify the division of your objections. If your objections cannot be resolved, you may appeal this permit upon issuance. This appeal should be filed in accordance with Section 69-3-110 of the Tennessee Code Annotated.

If you have questions, please contact the Chattanooga Environmental Field Office at 1-888-891-TDEC; or, at this office, please contact Miss Julie Harse at (615) 532-0682 or by E-mail at *Julie.Harse@tn.gov*.

Sincerely,

Vojin Janjić
Manager, Water-Based Systems

Enclosure

cc: Permit File
Chattanooga Environmental Field Office
Mr. Shan Rolin, Environmental Engineer, Signal Mountain Cement Company d/b/a Buzzi Unicem USA.com, Shan.Rolin@Buzziunicemusa.com

STATE OF TENNESSEE

NPDES PERMIT

No. TN0001830

Authorization to discharge under the
National Pollutant Discharge Elimination System (NPDES)

Issued By

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

Under authority of the Tennessee Water Quality Control Act of 1977 (T.C.A. 69-3-101 et seq.) and the delegation of authority from the United States Environmental Protection Agency under the Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977 (33 U.S.C. 1251, et seq.)

Discharger:	**Signal Mountain Cement Co. dba Buzzi Unicem USA**
is authorized to discharge:	**non-contact cooling water, rainwater runoff, and noncontaminated stormwater through Outfall 001, and storm water runoff through Outfalls SW2 and SW3**
from a facility located:	**in Chattanooga, Hamilton County, Tennessee**
to receiving waters named:	**unnamed tributary to Tennessee River (Outfall SW2) and Tennessee River at mile 454.5 (Outfalls 001 and SW3)**

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on:

This permit shall expire on:

Issuance date:

Draft

for Sandra K. Dudley, Ph.D., P.E.
Director

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PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

Signal Mountain Cement Co. dba Buzzi Unicem USA is authorized to discharge non-contact cooling water, rainwater runoff, and noncontaminated stormwater through Outfall 001, and storm water runoff through Outfalls SW2 and SW3 to unnamed tributary to Tennessee River (Outfall SW2) and Tennessee River at mile 454.5 (Outfalls 001 and SW3). These discharges shall be limited and monitored by the permittee as specified below:

Description : External Outfall, Number : 001, Monitoring : Effluent Gross, Season : All Year

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Flow	Report	-	Mgal/d	Recorder	Continuous	Daily Maximum
Flow	Report	-	Mgal/d	Recorder	Continuous	Monthly Average
Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Quarterly	Value
Total Suspended Solids (TSS)	<=	50	mg/L	Grab	Weekly	Daily Maximum
pH	>=	6	SU	Grab	Weekly	Minimum
pH	<=	9	SU	Grab	Weekly	Maximum

* Flow shall be reported in Million Gallons per Day (MGD).
** pH analyses shall be performed within fifteen (15) minutes of sample collection.

Description : External Outfall
Numbers : SW2 and SW3
Monitoring : Effluent Gross
Season : All Year

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Flow	Report	-	Mgal/d	Estimate	Monthly	Daily Maximum
Flow	Report	-	Mgal/d	Estimate	Monthly	Monthly Average
Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Monthly	Daily Maximum
pH	>=	6	SU	Grab	Monthly	Minimum
pH	<=	9	SU	Grab	Monthly	Maximum

* The permittee shall provide the date and duration (in hours) of the qualifying storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume of the discharge sampled. Flow shall be reported in Million Gallons per Day (MGD).

** pH analyses shall be performed within fifteen (15) minutes of sample collection.

Additional monitoring requirements and conditions applicable to all outfalls include:

There shall be no distinctly visible floating solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life.

The wastewater discharge shall not contain pollutants in quantities that will be hazardous or otherwise detrimental to humans, livestock, wildlife, plant life, or fish and aquatic life in the receiving stream.

Sludge or any other material removed by any treatment works must be disposed of in a manner, which prevents its entrance into or pollution of any surface or subsurface waters. Additionally, the disposal of such sludge or other material must be in compliance with the Tennessee Solid Waste Disposal Act, TCA 68-31-101 et seq. and the Tennessee Hazardous Waste Management Act, TCA 68-46-101 et seq.

B. MONITORING PROCEDURES

1. Representative Sampling

Samples and measurements taken in compliance with the monitoring requirements specified herein shall be representative of the volume and nature of the monitored discharge, and shall be taken after treatment and prior to mixing with uncontaminated storm water runoff or the receiving stream.

2. Sampling Frequency

If there is a discharge from a permitted outfall on any given day during the monitoring period, the permittee must sample and report the results of analyses accordingly, and the permittee should not mark the 'No Discharge' box on the Discharge Monitoring Report form.

3. Test Procedures

a. Test procedures for the analysis of pollutants shall conform to regulations published pursuant to Section 304 (h) of the Clean Water Act (the "Act"), as amended, under which such procedures may be required.

b. Unless otherwise noted in the permit, all pollutant parameters shall be determined according to methods prescribed in Title 40, CFR Part 136, as amended, promulgated pursuant to Section 304 (h) of the Act.

In instances where permit limits established through implementation of applicable water criteria are below analytical capabilities, compliance with those limits will be determined using the detection limits described in the TN Rules, Chapter 1200-4-3-.05(8).

4. Recording of Results

For each measurement or sample taken pursuant to the requirements of this permit, the permittee shall record the following information:

a. The exact place, date and time of sampling;

b. The exact person(s) collecting samples;

c. The dates and times the analyses were performed;

d. The person(s) or laboratory who performed the analyses;

e. The analytical techniques or methods used, and;

f. The results of all required analyses.

5. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed and calibration and maintenance of instrumentation shall be retained for a minimum of three (3) years, or longer, if requested by the Division of Water Resources.

C. DEFINITIONS

For the purpose of this permit, ***Annually*** is defined as a monitoring frequency of once every twelve (12) months beginning with the date of issuance of this permit so long as the following set of measurements for a given 12 month period are made approximately 12 months subsequent to that time.

A ***bypass*** is defined as the intentional diversion of waste streams from any portion of a treatment facility.

A ***calendar day*** is defined as the 24-hour period from midnight to midnight or any other 24-hour period that reasonably approximates the midnight to midnight time period.

A **Composite Sample**, for the purposes of this permit, is a sample collected continuously over a period of 24-hours at a rate proportional to the flow. Composite sample should be a combination of at least 8 sample aliquots of at least 100 milliliters, collected at periodic intervals during the operating hours of a facility over a 24-hour period.

The ***Daily Maximum Amount***, is a limitation measured in pounds per day (lb/day), on the total amount of any pollutant in the discharge by weight during any calendar day.

The ***Daily Maximum Concentration*** is a limitation on the average concentration, in milligrams per liter (mg/L), of the discharge during any calendar day. When a proportional-to-flow composite sampling device is used, the daily concentration is the concentration of that 24-hour composite; when other sampling means are used, the daily concentration is the arithmetic

mean of the concentrations of equal volume samples collected during any calendar day or sampling period.

Degradation means the alteration of the properties of waters by the addition of pollutants or removal of habitat.

De Minimis – Alterations, other than those resulting in the condition of pollution or new domestic wastewater discharges, that represent either a small magnitude or a short duration shall be considered a *de minimis* impact and will not be considered degradation for purposes of implementing the antidegradation policy. Discharges other than domestic wastewater will be considered *de minimis* if they are temporary or use less than five percent of the available assimilative capacity for the substance being discharged. If more than one activity has been authorized in a segment and the total of the impacts uses no more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow, they are presumed to be *de minimis*. Where total impacts use more than ten percent of the assimilative capacity, available habitat, or 7Q10 low flow they may be treated as *de minimis* provided that the division finds on a scientific basis that the additional degradation has an insignificant effect on the resource and that no single activity is allowed to consume more than five percent of the assimilative capacity, available habitat or 7Q10 low flow.

Discharge or "discharge of a pollutant" refers to the addition of pollutants to waters from a source.

Dry Weather Flow shall be construed to represent discharges consisting of process and/or non-process wastewater only.

An ***ecoregion*** is a relatively homogeneous area defined by similarity of climate, landform, soil, potential natural vegetation, hydrology, or other ecologically relevant variables.

The ***geometric mean*** of any set of values is the n^{th} root of the product of the individual values where "n" is equal to the number of individual values. The geometric mean is equivalent to the antilog of the arithmetic mean of the logarithms of the individual values. For the purposes of calculating the geometric mean, values of zero (0) shall be considered to be one (1).

A ***Grab Sample***, for the purposes of this permit, is defined as a single effluent sample of at least 100 milliliters (sample volumes <100 milliliters are allowed when specified per standard methods, latest edition) collected at a randomly selected time over a period not exceeding 15 minutes. The sample(s) shall be collected at the period(s) most representative of the total discharge.

The ***Instantaneous Concentration*** is a limitation on the concentration, in milligrams per liter (mg/L), of any pollutant contained in the discharge determined from a grab sample taken at any point in time.

The ***monthly average amount***, shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar month when the measurements were made.

The ***monthly average concentration***, other than for *E. coli* bacteria, is the arithmetic mean of all the composite or grab samples collected in a one-calendar month period.

A ***one week period*** (or ***calendar-week***) is defined as the period from Sunday through Saturday. For reporting purposes, a calendar week that contains a change of month shall be considered part of the latter month.

Pollutant means sewage, industrial wastes, or other wastes.

A **Qualifying Storm Event** is one which is greater than 0.1 inches and that occurs after a period of at least 72 hours after any previous storm event with rainfall of 0.1 inches or greater.

For the purpose of this permit, a ***Quarter*** is defined as any one of the following three month periods: January 1 through March 31, April 1 through June 30, July 1 through September 30, or October 1 through December 31.

A ***rainfall event*** is defined as any occurrence of rain, preceded by 10 hours without precipitation that results in an accumulation of 0.01 inches or more. Instances of rainfall occurring within 10 hours of each other will be considered a single rainfall event.

A ***rationale*** (or “fact sheet”) is a document that is prepared when drafting an NPDES permit or permit action. It provides the technical, regulatory and administrative basis for an agency’s permit decision.

A ***reference site*** means least impacted waters within an ecoregion that have been monitored to establish a baseline to which alterations of other waters can be compared.

A ***reference condition*** is a parameter-specific set of data from regional reference sites that establish the statistical range of values for that particular substance at least-impacted streams.

For the purpose of this permit, ***Semi-annually*** means the same as "once every six months." Measurements of the effluent characteristics concentrations may be made anytime during a 6 month period beginning from the issuance date of this permit so long as the second set of measurements for a given 12 month period are made approximately 6 months subsequent to that time, if feasible.

A ***subecoregion*** is a smaller, more homogenous area that has been delineated within an ecoregion.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

The term, ***washout*** is applicable to activated sludge plants and is defined as loss of mixed liquor suspended solids (MLSS) of 30.00% or more from the aeration basin(s).

Waters means any and all water, public or private, on or beneath the surface of the ground, which are contained within, flow through, or border upon Tennessee or any portion thereof except those bodies of water confined to and retained within the limits of private property in single ownership which do not combine or effect a junction with natural surface or underground waters.

The ***weekly average amount***, shall be determined by the summation of all the measured daily discharges by weight divided by the number of days during the calendar week when the measurements were made.

The ***weekly average concentration***, is the arithmetic mean of all the composite samples collected in a one-week period. The permittee must report the highest weekly average in the one-month period.

Wet Weather Flow shall be construed to represent storm water runoff which, in combination with all process and/or non-process wastewater discharges, as applicable, is discharged during a qualifying storm event.

D. ACRONYMS AND ABBREVIATIONS

1Q10 – 1-day minimum, 10-year recurrence interval
30Q20 – 30-day minimum, 20-year recurrence interval
7Q10 – 7-day minimum, 10-year recurrence interval
BAT – best available technology economically achievable
BCT – best conventional pollutant control technology
BDL – below detection level
BOD_5 – five day biochemical oxygen demand
BPT – best practicable control technology currently available
$CBOD_5$ – five day carbonaceous biochemical oxygen demand
CEI – compliance evaluation inspection
CFR – code of federal regulations
CFS – cubic feet per second
CFU – colony forming units
CIU – categorical industrial user
CSO – combined sewer overflow
DMR – discharge monitoring report
D.O. – dissolved oxygen
E. coli – *Escherichia coli*
EFO – environmental field office
LB(lb) - pound
IC_{25} – inhibition concentration causing 25% reduction in survival, reproduction and growth of the test organisms
IU – industrial user
IWS – industrial waste survey
LC_{50} – acute test causing 50% lethality
MDL – method detection level
MGD – million gallons per day

MG/L(mg/l) – milligrams per liter
ML – minimum level of quantification
ml – milliliter
MLSS – mixed liquor suspended solids
MOR – monthly operating report
NODI – no discharge
NOEC – no observed effect concentration
NPDES – national pollutant discharge elimination system
PL – permit limit
POTW – publicly owned treatment works
RDL – required detection limit
SAR – semi-annual [pretreatment program] report
SIU – significant industrial user
SSO – sanitary sewer overflow
STP – sewage treatment plant
TCA – Tennessee code annotated
TDEC – Tennessee Department of Environment and Conservation
TIE/TRE – toxicity identification evaluation/toxicity reduction evaluation
TMDL – total maximum daily load
TRC – total residual chlorine
TSS – total suspended solids
WQBEL – water quality based effluent limit

E. REPORTING

1. Monitoring Results

Monitoring results shall be recorded monthly and submitted monthly using Discharge Monitoring Report (DMR) forms supplied by the Division of Water Resources. Submittals shall be postmarked no later than 15 days after the completion of the reporting period. A completed DMR with an original signature shall be submitted to the following address:

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
COMPLIANCE & ENFORCEMENT SECTION
William R. Snodgrass - Tennessee Tower
312 Rosa L. Parks Avenue, 11th Floor
Nashville, Tennessee 37243-1102

A copy of the completed and signed DMR shall be mailed to the Chattanooga Environmental Field Office (EFO) at the following address:

STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
DIVISION OF WATER RESOURCES
Chattanooga Environmental Field Office
540 McCallie Avenue, Suite 550
Chattanooga, Tennessee 37402

A copy should be retained for the permittee's files. In addition, any communication regarding compliance with the conditions of this permit must be sent to the two offices listed above.

The first DMR is due on the 15th of the month following permit effectiveness.

DMRs and any other information or report must be signed and certified by a responsible corporate officer as defined in 40 CFR 122.22, a general partner or proprietor, or a principal municipal executive officer or ranking elected official, or his duly authorized representative. Such authorization must be submitted in writing and must explain the duties and responsibilities of the authorized representative.

The electronic submission of DMR data will be accepted only if formally approved beforehand by the division. For purposes of determining compliance with this permit, data approved by the division to be submitted electronically is legally equivalent to data submitted on signed and certified DMR forms.

2. Additional Monitoring by Permittee

If the permittee monitors any pollutant specifically limited by this permit more frequently than required at the location(s) designated, using approved analytical methods as specified herein, the results of such monitoring shall be included in the calculation and reporting of the values required in the DMR form. Such increased frequency shall also be indicated on the form.

3. Falsifying Results and/or Reports

Knowingly making any false statement on any report required by this permit or falsifying any result may result in the imposition of criminal penalties as provided for in Section 309 of the Federal Water Pollution Control Act, as amended, and in Section 69-3-115 of the Tennessee Water Quality Control Act.

4. Outlier Data

Outlier data include analytical results that are probably false. The validity of results is based on operational knowledge and a properly implemented quality assurance program. False results may include laboratory artifacts, potential sample tampering, broken or suspect sample containers, sample contamination or similar demonstrated quality control flaw.

Outlier data are identified through a properly implemented quality assurance program, and according to ASTM standards (e.g. Grubbs Test, 'h' and 'k' statistics). Furthermore, outliers should be verified, corrected, or removed, based on further inquiries into the matter. If an outlier was verified (through repeated testing and/or analysis), it should remain in the preliminary data set. If an outlier resulted from a transcription or similar clerical error, it should be corrected and subsequently reported.

Therefore, only if an outlier was associated with problems in the collection or analysis of the samples and as such does not conform with the Guidelines Establishing Test Procedures for the Analysis of Pollutants (40 CFR §136), it can be removed from the data set and not reported on the Discharge Monitoring Report forms (DMRs). Otherwise, all results (including monitoring of pollutants more frequently than required at the location(s) designated, using

approved analytical methods as specified in the permit) should be included in the calculation and reporting of the values required in the DMR form. You are encouraged to use “comment” section of the DMR form (or attach additional pages), in order to explain any potential outliers or dubious results.

F. SCHEDULE OF COMPLIANCE

Full compliance and operational levels shall be attained from the effective date of this permit.

PART II

A. GENERAL PROVISIONS

1. Duty to Reapply

Permittee is not authorized to discharge after the expiration date of this permit. In order to receive authorization to discharge beyond the expiration date, the permittee shall submit such information and forms as are required to the Director of the Division of Water Resources (the "Director") no later than 180 days prior to the expiration date. Such applications must be properly signed and certified.

2. Right of Entry

The permittee shall allow the Director, the Regional Administrator of the U.S. Environmental Protection Agency, or their authorized representatives, upon the presentation of credentials:

a. To enter upon the permittee's premises where an effluent source is located or where records are required to be kept under the terms and conditions of this permit, and at reasonable times to copy these records;

b. To inspect at reasonable times any monitoring equipment or method or any collection, treatment, pollution management, or discharge facilities required under this permit; and

c. To sample at reasonable times any discharge of pollutants.

3. Availability of Reports

Except for data determined to be confidential under Section 308 of the Federal Water Pollution Control Act, as amended, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Division of Water Resources. As required by the Federal Act, effluent data shall not be considered confidential.

4. Proper Operation and Maintenance

a. The permittee shall at all times properly operate and maintain all facilities and systems (and related appurtenances) for collection and treatment which are installed or used by the permittee to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance also includes adequate laboratory and process controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems, which are installed by a permittee only when the operation is necessary to achieve compliance with the conditions of the permit. Backup continuous pH and flow monitoring equipment are not required.

b. Dilution water shall not be added to comply with effluent requirements to achieve BCT, BPT, BAT and/or other technology-based effluent limitations such as those in State of Tennessee Rule 1200-4-5-.09.

5. Treatment Facility Failure

The permittee, in order to maintain compliance with this permit, shall control production, all discharges, or both, upon reduction, loss, or failure of the treatment facility, until the facility is restored or an alternative method of treatment is provided. This requirement applies in such situations as the reduction, loss, or failure of the primary source of power.

6. Property Rights

The issuance of this permit does not convey any property rights in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State, or local laws or regulations.

7. Severability

The provisions of this permit are severable. If any provision of this permit due to any circumstance, is held invalid, then the application of such provision to other circumstances and to the remainder of this permit shall not be affected thereby.

8. Other Information

If the permittee becomes aware that he failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Director, then he shall promptly submit such facts or information.

B. CHANGES AFFECTING THE PERMIT

1. Planned Changes

The permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required only when:

a. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in 40 CFR 122.29(b); or

b. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants which are subject neither to effluent limitations in the permit, nor to notification requirements under 40 CFR 122.42(a)(1).

2. Permit Modification, Revocation, or Termination

a. This permit may be modified, revoked and reissued, or terminated for cause as described in 40 CFR 122.62 and 122.64, Federal Register, Volume 49, No. 188 (Wednesday, September 26, 1984), as amended.

b. The permittee shall furnish to the Director, within a reasonable time, any information which the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The permittee shall also furnish to the Director, upon request, copies of records required to be kept by this permit.

c. If any applicable effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established for any toxic pollutant under Section 307(a) of the Federal Water Pollution Control Act, as amended, the Director shall modify or revoke and reissue the permit to conform to the prohibition or to the effluent standard, providing that the effluent standard is more stringent than the limitation in the permit on the toxic pollutant. The permittee shall comply with these effluent standards or prohibitions within the time provided in the regulations that establish these standards or prohibitions, even if the permit has not yet been modified or revoked and reissued to incorporate the requirement.

d. The filing of a request by the permittee for a modification, revocation, reissuance, termination, or notification of planned changes or anticipated noncompliance does not halt any permit condition.

3. Change of Ownership

This permit may be transferred to another party (provided there are neither modifications to the facility or its operations, nor any other changes which might affect the permit limits and conditions contained in the permit) by the permittee if:

a. The permittee notifies the Director of the proposed transfer at least 30 days in advance of the proposed transfer date;

b. The notice includes a written agreement between the existing and new permittees containing a specified date for transfer of permit responsibility, coverage, and liability between them; and

c. The Director, within 30 days, does not notify the current permittee and the new permittee of his intent to modify, revoke or reissue, or terminate the permit and to require that a new application be filed rather than agreeing to the transfer of the permit.

Pursuant to the requirements of 40 CFR 122.61, concerning transfer of ownership, the permittee must provide the following information to the division in their formal notice of intent to transfer ownership: 1) the NPDES permit number of the subject permit; 2) the effective date of the proposed transfer; 3) the name and address of the transferor; 4) the name and address of the transferee; 5) the names of the responsible parties for both the transferor and transferee; 6) a statement that the transferee assumes responsibility for the subject NPDES permit; 7) a statement that the transferor relinquishes responsibility for the subject NPDES permit; 8) the signatures of the responsible parties for both the transferor and transferee pursuant to the requirements of 40 CFR 122.22(a), "Signatories to permit applications"; and, 9) a statement regarding any proposed modifications to the facility, its operations, or any other changes which might affect the permit limits and conditions contained in the permit.

4. Change of Mailing Address

The permittee shall promptly provide to the Director written notice of any change of mailing address. In the absence of such notice the original address of the permittee will be assumed to be correct.

C. NONCOMPLIANCE

1. Effect of Noncompliance

All discharges shall be consistent with the terms and conditions of this permit. Any permit noncompliance constitutes a violation of applicable State and Federal laws and is grounds for enforcement action, permit termination, permit modification, or denial of permit reissuance.

2. Reporting of Noncompliance

a. 24-Hour Reporting

In the case of any noncompliance which could cause a threat to public drinking supplies, or any other discharge which could constitute a threat to human health or the environment, the required notice of non-compliance shall be provided to the Division of Water Resources in the appropriate regional Field Office within 24-hours from the time the permittee becomes aware of the circumstances. (The regional Field Office should be contacted for names and phone numbers of environmental response personnel).

A written submission must be provided within five calendar days of the time the permittee becomes aware of the circumstances, unless this requirement is waived by the Director on a case-by-case basis. The permittee shall provide the Director with the following information:

i. A description of the discharge and cause of noncompliance;

ii. The period of noncompliance, including exact dates and times or, if not corrected, the anticipated time the noncompliance is expected to continue; and

iii. The steps being taken to reduce, eliminate, and prevent recurrence of the noncomplying discharge.

b. Scheduled Reporting

For instances of noncompliance which are not reported under subparagraph 2.a. above, the permittee shall report the noncompliance on the Discharge Monitoring Report. The report shall contain all information concerning the steps taken, or planned, to reduce, eliminate, and prevent recurrence of the violation and the anticipated time the violation is expected to continue.

3. Sanitary Sewer Overflow

a. "***Sanitary Sewer Overflow***" means the discharge to land or water of wastes from any portion of the collection, transmission, or treatment system other than through permitted outfalls.

b. Sanitary Sewer Overflows are prohibited.

c. The permittee shall operate the collection system so as to avoid sanitary sewer overflows. No new or additional flows shall be added upstream of any point in the collection system, which experiences chronic sanitary sewer overflows (greater than 5 events per year) or would otherwise overload any portion of the system.

d. Unless there is specific enforcement action to the contrary, the permittee is relieved of this requirement after: 1) an authorized representative of the Commissioner of the Department of Environment and Conservation has approved an engineering report and construction plans and specifications prepared in accordance with accepted engineering practices for correction of the problem; 2) the correction work is underway; and 3) the cumulative, peak-design, flows potentially added from new connections and line extensions upstream of any chronic overflow point are less than or proportional to the amount of inflow and infiltration removal documented upstream of that point. The inflow and infiltration reduction must be measured by the permittee using practices that are customary in the environmental engineering field and reported in an attachment to a Monthly Operating Report submitted to the regional TDEC Field Office. The data measurement period shall be sufficient to account for seasonal rainfall patterns and seasonal groundwater table elevations.

e. In the event that more than five (5) sanitary sewer overflows have occurred from a single point in the collection system for reasons that may not warrant the self-imposed moratorium or completion of the actions identified in this paragraph, the permittee may request a meeting with the Division of Water Resources field office staff to petition for a waiver based on mitigating evidence.

4. Upset

a. "***Upset***" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly

designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

b. An upset shall constitute an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the permittee demonstrates, through properly signed, contemporaneous operating logs, or other relevant evidence that:

i. An upset occurred and that the permittee can identify the cause(s) of the upset;

ii. The permitted facility was at the time being operated in a prudent and workman-like manner and in compliance with proper operation and maintenance procedures;

iii. The permittee submitted information required under "Reporting of Noncompliance" within 24-hours of becoming aware of the upset (if this information is provided orally, a written submission must be provided within five days); and

iv. The permittee complied with any remedial measures required under "Adverse Impact."

5. Adverse Impact

The permittee shall take all reasonable steps to minimize any adverse impact to the waters of Tennessee resulting from noncompliance with this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge. It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.

6. Bypass

a. "***Bypass***" is the intentional diversion of wastewater away from any portion of a treatment facility. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which would cause them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.

b. Bypasses are prohibited unless the following 3 conditions are met:

i. The bypass is unavoidable to prevent loss of life, personal injury, or severe property damage;

ii. There are not feasible alternatives to bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down-time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass, which occurred

during normal periods of equipment down-time or preventative maintenance;

iii. The permittee submits notice of an unanticipated bypass to the Division of Water Resources in the appropriate environmental assistance center within 24-hours of becoming aware of the bypass (if this information is provided orally, a written submission must be provided within five days). When the need for the bypass is foreseeable, prior notification shall be submitted to the Director, if possible, at least 10 days before the date of the bypass.

c. Bypasses not exceeding limitations are allowed **only** if the bypass is necessary for essential maintenance to assure efficient operation. All other bypasses are prohibited. Allowable bypasses not exceeding limitations are not subject to the reporting requirements of 6.b.iii, above.

7. Washout

a. For domestic wastewater plants only, a "washout" shall be defined as loss of Mixed Liquor Suspended Solids (MLSS) of 30.00% or more. This refers to the MLSS in the aeration basin(s) only. This does not include MLSS decrease due to solids wasting to the sludge disposal system. A washout can be caused by improper operation or from peak flows due to infiltration and inflow.

b. A washout is prohibited. If a washout occurs the permittee must report the incident to the Division of Water Resources in the appropriate regional Field Office within 24-hours by telephone. A written submission must be provided within 5 days. The washout must be noted on the discharge monitoring report. Each day of a washout is a separate violation.

D. LIABILITIES

1. Civil and Criminal Liability

Except as provided in permit conditions for "**Bypass,**" "**Overflow,**" and "**Upset,**" nothing in this permit shall be construed to relieve the permittee from civil or criminal penalties for noncompliance. Notwithstanding this permit, the permittee shall remain liable for any damages sustained by the State of Tennessee, including but not limited to fish kills and losses of aquatic life and/or wildlife, as a result of the discharge of wastewater to any surface or subsurface waters. Additionally, notwithstanding this Permit, it shall be the responsibility of the permittee to conduct its wastewater treatment and/or discharge activities in a manner such that public or private nuisances or health hazards will not be created.

2. Liability Under State Law

Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or the Federal Water Pollution Control Act, as amended.

PART III

OTHER REQUIREMENTS

A. TOXIC POLLUTANTS

The permittee shall notify the Division of Water Resources as soon as it knows or has reason to believe:

1. That any activity has occurred or will occur which would result in the discharge on a routine or frequent basis, of any toxic substance(s) (listed at 40 CFR 122, Appendix D, Table II and III) which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. One hundred micrograms per liter (100 ug/l);

    b. Two hundred micrograms per liter (200 ug/l) for acrolein and acrylonitrile; five hundred micrograms per liter (500 ug/l) for 2,4-dinitrophenol and for 2-methyl-4,6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;

    c. Five (5) times the maximum concentration value reported for that pollutant(s) in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

2. That any activity has occurred or will occur which would result in any discharge, on a non-routine or infrequent basis, of a toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":

    a. Five hundred micrograms per liter (500 ug/l);

    b. One milligram per liter (1 mg/L) for antimony;

    c. Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 122.21(g)(7); or

    d. The level established by the Director in accordance with 122.44(f).

B. REOPENER CLAUSE

If an applicable standard or limitation is promulgated under Sections 301(b)(2)(C) and (D), 304(B)(2), and 307(a)(2) and that effluent standard or limitation is more stringent than any effluent limitation in the permit or controls a pollutant not limited in the permit, the permit shall be promptly modified or revoked and reissued to conform to that effluent standard or limitation.

C. PLACEMENT OF SIGNS

Within sixty (60) days of the effective date of this permit, the permittee shall place and maintain a sign(s) at each outfall and any bypass/overflow point in the collection system. For the purposes of this requirement, any bypass/overflow point that has discharged five (5) or more times in the last year must be so posted. The sign(s) should be clearly visible to the public from the bank and the receiving stream or from the nearest public property/right-of-way, if applicable. The minimum sign size should be two feet by two feet (2' x 2') with one inch (1") letters. The sign should be made of durable material and have a white background with black letters.

The sign(s) are to provide notice to the public as to the nature of the discharge and, in the case of the permitted outfalls, that the discharge is regulated by the Tennessee Department of Environment and Conservation, Division of Water Resources. The following is given as an example of the minimal amount of information that must be included on the sign:

TREATED INDUSTRIAL WASTEWATER
Signal Mountain Cement Co. dba Buzzi Unicem USA
(Permittee's Phone Number)
NPDES Permit NO. TN0001830
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Chattanooga

INDUSTRIAL STORM WATER RUNOFF
Signal Mountain Cement Co. dba Buzzi Unicem USA
(Permittee's Phone Number)
NPDES Permit NO. TN0001830
TENNESSEE DIVISION OF WATER RESOURCES
1-888-891-8332 ENVIRONMENTAL FIELD OFFICE - Chattanooga

D. ANTIDEGRADATION

Pursuant to the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3-.06, titled “Tennessee Antidegradation Statement,” which prohibits the degradation of high quality surface waters and the increased discharges of substances that cause or contribute to impairment, the permittee shall further be required, pursuant to the terms and conditions of this permit, to comply with the effluent limitations and schedules of compliance required to implement applicable water quality standards, to comply with a State Water Quality Plan or

other state or federal laws or regulations, or where practicable, to comply with a standard permitting no discharge of pollutants.

PART IV

BEST MANAGEMENT PRACTICES CONDITIONS

A. GENERAL CONDITIONS

For purposes of this part, the terms "pollutant" or "pollutants" refer to any substance listed as toxic under Section 307(a)(1) of the Clean Water Act, oil, as defined in Section 311(a)(1) of the Act, and any substance listed as hazardous under Section 311 of the Act. The permittee shall develop and implement a Best Management Practices (BMP) plan which prevents, or minimizes the potential for, the release of pollutants (including oil and grease) from *ancillary activities*, including material storage areas; plant site runoff; in-plant transfer, process and material handling areas; loading and unloading operations, and sludge and waste disposal areas, to the waters of the State of Tennessee through plant site runoff; spillage or leaks; sludge or waste disposal; or drainage from raw material storage.

B. GENERAL REQUIREMENTS

The BMP program shall:

1. Be documented in narrative form, and shall include any necessary plot plans, drawings, or maps;

2. Establish specific objectives for the control of toxic and hazardous pollutants:

    a. Each facility component or system shall be examined for its potential for causing a release of significant amounts of toxic or hazardous pollutants to waters of the State of Tennessee due to equipment failure, improper operation, natural phenomena such as rain or snowfall, etc.;

    b. Where experience indicates a reasonable potential for equipment failure (e.g., a tank overflow or leakage), natural condition (e.g., precipitation), or other circumstances to result in significant amounts of toxic or hazardous pollutants reaching surface waters, the plan should include a prediction of the direction, rate of flow, and total quantity of toxic or hazardous pollutants which could be discharged from the facility as a result of each condition or circumstance;

3. Establish specific best management practices to meet the objectives identified under section B.2. contained herein, addressing each component or system capable of causing a release of significant amounts of toxic or hazardous pollutants to the waters of the State of Tennessee;

4. The BMP program:

   a. May reflect requirements for Spill Prevention Control and Countermeasure (SPCC) plans under section 311 of the Act and Title 40 CFR part 112, and may incorporate any part of such plans into the BMP program by reference;

   b. Shall assure the proper management of solid and hazardous waste in accordance with regulations promulgated under the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act of 1976 (RCRA) (40 U.S.C. §6901, et. seg.). Management practices required under RCRA regulations shall be expressly incorporated into the BMP program; and,

   c. Shall address the following points for the ancillary activities listed in section A.1.:

      i. Statement of policy;
      ii. Spill Control Committee: responsible for BMP program implementation and subsequent review and updating;
      iii. Material inventory: identification of all sources and quantities of toxic and hazardous substances handled or produced, including plant drawings and plot plans, materials flow diagrams, physical, chemical, toxicological, and health information on toxic and hazardous substances, and investigation and evaluation of new materials;
      iv. Material compatibility: evaluation of process changes or revisions for materials compatibility, review of properties of chemicals handled and materials of construction, evaluation of means of chemical disposal and incompatibility, cleansing of vessels and transfer lines, and use of proper coatings and cathodic protection on buried pipelines if required;
      v. Employee training: meetings to be held at frequent intervals, spill drills, adequate job training, transmission of information on past spills and causes, informing employees of BMP program components, training in cleanup procedures, and review and interface with safety program;
      vi. Reporting and notification procedures: maintenance of records of spills through formal reports for internal review, notification as required by law to governmental and environmental agencies in the event of a spill, and procedures for notifying the appropriate plant personnel;
      vii. Visual inspections: routine inspections with visual observations of storage facilities, transfer pipelines, and loading and unloading areas, detailed inspections of pipes, pumps, valves, fittings, tank corrosion, tank support and foundation deterioration, etc.;
      viii. Preventive maintenance: identification of equipment and systems to which the preventive maintenance program should apply, periodic inspection and testing of such equipment and systems, appropriate adjustment, repair, or replacement of parts, and maintenance of preventive maintenance records;

ix. Good housekeeping: neat and orderly storage of chemicals, prompt removal of small spillage, regular garbage pickup, maintenance of dry and clean floors, proper pathways and walkways, minimum accumulation of liquid and solid chemicals on the ground or floor in a building, and stimulation of employee interest in good housekeeping;

x. Security: plant patrols, fencing, good lighting, traffic control, controlled access where appropriate, visitor passes, locked entrances, locks on drain valves and pumps for chemical storage tanks, and television monitoring.

Note: Additional technical information on BMPs and the elements of a BMP program is contained in EPA publications entitled "Guidance Manual for Developing Best Management Practices (BMP)" (EPA 833-B-93-004) and "Stormwater Management for Industrial Activities: Developing Pollution Prevention Plans and Best Management Practices" (EPA 832-R-92-006).

C. DOCUMENTATION

The permittee shall maintain the BMP plan at the facility and shall make the plan available to the permit issuing authority upon request.

D. BMP PLAN MODIFICATION

The permittee shall amend the BMP plan whenever there is a change in the facility or change in the operation of the facility, which materially increases the potential for the ancillary activities to result in a discharge of significant amounts of pollutants.

E. MODIFICATION FOR INEFFECTIVENESS

If the BMP plan proves to be ineffective in achieving the general objective of preventing the release of significant amounts of pollutants to surface waters and the specific objectives and requirements under section B, the permit shall be subject to modification pursuant to 40 CFR 122.62 or 122.63 to incorporate revised BMP requirements. Any such permit modification shall be subject to review in accordance with the procedures for permit appeals set forth in accordance with 69-3-110, Tennessee Code Annotated.

F. COMPLIANCE SCHEDULE

Unless the permittee is otherwise authorized by the division in writing, the BMP Plan shall be completed as follows:

1. The plan shall be developed and available for review within 30 days after permit effective date.

2. The permittee shall begin implementation of the BMP Plan as soon as possible, but not later than 60 days after permit coverage. Where new construction is necessary to implement the management plan, a construction schedule shall be included. Construction shall be completed as soon as possible.

3. The permittee shall fully complete the approved BMP Plan, including all necessary construction, and be in full compliance with the Act, within six months following initial implementation of the Plan.

RATIONALE

Signal Mountain Cement Co. dba Buzzi Unicem USA

NPDES PERMIT NO. TN0001830
Chattanooga, Hamilton County, Tennessee

Permit Writer: Miss Julie Harse

I. DISCHARGER

Signal Mountain Cement Co. dba Buzzi Unicem USA
1201 Suck Creek Road
Chattanooga, Hamilton County, Tennessee
Site Longitude: -85.345833 Site Latitude: 35.095833

Official Contact Person:
Mr. David Puzan
Plant Manager
(423) 886-0800

Nature of Business:
Cement, Hydraulic

SIC Code(s):	**3241**
Industrial Classification:	**Secondary, w/ELG**
Discharger Rating:	**Minor**

II. PERMIT STATUS

Issued May 31, 2010
Last modified October 31, 2006
Expired May 31, 2014
Application for renewal received May 12, 2009

Watershed Scheduling

Environmental Field Office: Chattanooga
Hydrocode: 6020001 Watershed Group: 4
Watershed Identification: Tennessee River (Chattanooga Area)
Target Reissuance Year: 2019

III. FACILITY DISCHARGES AND RECEIVING WATERS

Signal Mountain Cement Co. dba Buzzi Unicem USA discharges non-contact cooling water, rainwater runoff, and noncontaminated stormwater through Outfall 001, and storm water runoff through Outfalls SW2 and SW3 to unnamed tributary to Tennessee River (Outfall SW2) and Tennessee River at mile 454.5 (Outfalls 001 and SW3). Appendix 1 summarizes facility discharges and the receiving stream information for Outfall 001.

IV. APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

The Standard Industrial Classification (SIC) code for Signal Mountain Cement Company is 3241 (Hydraulic Cement). Wastewater discharged through Outfall 001 is regulated by 40 CFR Part 411 – Subpart C (Materials Storage Piles Runoff). Appendix 2 lists the best conventional pollution control technology (BCT) effluent limitations guidelines.

V. PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

Appendix 3 lists the permit limitations and monitoring requirements as defined in the previous permit.

VI. HISTORICAL MONITORING AND INSPECTION

During the previous permit term, Signal Mountain Cement Co. dba Buzzi Unicem USA did have several excursions for pH in the previous permit period. The size of the receiving stream would limit the effect of the permit excursion on the instream pH value. A summary of the data reported on Discharge Monitoring Report forms during the previous permit term is summarized in Appendix 4.

During the previous permit term, the Division's personnel from the Chattanooga Environmental Field Office performed a Compliance Evaluation Inspection (CEI) of the Signal Mountain Cement Co. dba Buzzi Unicem USA. The CEI was performed by James Finley on September 12, 2013. The facility was found to be in compliance with the permit requirements.

VII. NEW PERMIT LIMITS AND MONITORING REQUIREMENTS

The proposed new permit limits have been selected by determining a technology-based limit and evaluating if that limit protects the water quality of the receiving stream. If the technology-based limit would cause violations of water quality, the water quality-based limit is chosen. The technology-based limit is determined from EPA effluent limitations guidelines if applicable (see Part IV); or from State of Tennessee maximum effluent limits for effluent limited segments per Rule 1200-4-5-.08; or by way of operational and/or treatability data. Furthermore, effluent limitations in this permit must comply with any approved Total Maximum Daily Load (TMDL) studies. Appendix 5 lists all proposed effluent limitations and monitoring requirements to be included in the new permit. Note that in general, the term "anti-backsliding" refers to a statutory provision that prohibits the renewal, reissuance, or modification of an existing NPDES permit that contains effluents limits, permit conditions, or standards that are less stringent than those established in the previous permit.

Flow

Monitoring of flow quantifies the load of pollutants to the stream. Flow shall be reported in Million Gallons per Day (MGD) and monitored at the time of sample collection.

Total Suspended Solids (TSS)

The State of Tennessee Water Quality Standards for the protection of Fish & Aquatic Life [Chapter 1200-4-3-.03(3) (c)] state there shall be no distinctly visible solids, scum, foam, oily slick, or the formation of slimes, bottom deposits or sludge banks of such size or character that may be detrimental to fish and aquatic life in the receiving stream.

The applicable federal effluent guidelines require a daily maximum concentration of 50 mg/L. Considering the nature of wastewater collection and discharge system, the sample type will be grab.

pH

The federal guidelines (40 CFR Part 411) require the pH for the effluent stream to be in a range of 6.0 to 9.0. According to the State of Tennessee Water Quality Standards [Chapter 1200-4-3-.03(3) (b)], the pH for the protection of Fish and Aquatic Life shall lie within the range of 6.5 to 9.0 and shall not fluctuate more than 1.0 unit in this range over a period of 24-hours. Considering the size of the receiving stream, the effluent limitation for pH will be retained in a range 6.0 to 9.0. The sample type will be grab.

Application Sampling

The values submitted in the application were compared to the streams available loading to determine if the reasonable potential existed to violate water quality criteria. None of the values created the reasonable potential to violate water quality criteria although the application value for ammonia was high at 4.12 mg/L in comparison to the 2009 value of 0.33 mg/L. The new permit will require the quarterly reporting of ammonia.

2013 WQC

PASS-THROUGH LIMITATIONS FOR METALS AND OTHER TOXIC SUBSTANCES
WATER QUALITY BASED EFFLUENT CALCULATIONS
OUTFALL 001

FACILITY: Signal Mountain Cement Co. PERMIT #: TN0001830 **DATE: 3/24/2014** **CALC BY: JAH**

regulated stream worksheet (1Q10)

Stream (1Q10) [MGD]	Stream (30Q5) [MGD]	Waste Flow [MGD]	Ttl. Susp. Solids [mg/l]	Hardness (as CaCO3) [mg/l]	Margin of Safety [%]
3491	7758	1.928	10	78	50

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	
	Stream Bckgrnd. Conc.	Fish/Aqua. Life (F & AL) WQC lab conditions		Fraction Dissolved	F & AL- instream allowable ambient conditions (Tot)		Calc. Effluent Concentration based on F & AL		Human Health Water Quality Criteria * In-Stream Criteria			Calc. Effluent Concentration **			Application Value
PARAMETER	[ug/l]	Chronic [ug/l]	Acute [ug/l]	[Fraction]	Chronic [ug/l]	Acute [ug/l]	Chronic [ug/l]	Acute [ug/l]	Organisms [ug/l]	Water/Organisms [ug/l]	DWS [ug/l]	Organisms [ug/l]	Water/Organisms [ug/l]	DWS [ug/l]	[ug/l]
Copper	16.6	7.243	10.634	0.218	33.229	48.789	**15058.32**	**29153.20**	N/A	N/A	N/A	**NA**	NA	NA	30
Chromium III	385.7	60.468	464.858	0.078	771.336	5929.728	**349547.11**	**5022236.73**	N/A	N/A	N/A	**NA**	NA	NA	<10
Chromium VI	5.5	11.000	16.000	1.000	11.000	16.000	**4984.88**	**9514.09**	N/A	N/A	N/A	**NA**	NA	NA	<10
Chromium, Total	50.0	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100.0	**NA**	NA	100646.47	<10
Nickel	50.0	42.147	379.469	0.206	204.838	1844.237	**140283.68**	**1625321.26**	4600.0	610.0	100.0	**9156579.05**	1126985.50	100646.47	<10
Cadmium	0.5	0.207	1.581	0.193	1.074	8.204	**486.55**	**6945.22**	N/A	N/A	5.0	**NA**	NA	8982.08	<10
Lead	2.5	1.918	49.224	0.146	13.144	337.302	**9643.20**	**303279.17**	N/A	N/A	5.0	**NA**	NA	5032.32	<10
Mercury (T)	0.025	0.770	1.400	1.000	0.770	1.400	**674.87**	**1245.55**	0.051	0.05	2.0	**52.34**	50.32	3974.56	<0.2
Silver	1.0	N/A	2.098	1.000	NA	2.098	**N/A**	**950.79**	N/A	N/A	N/A	**NA**	NA	NA	<10
Zinc	382.7	95.712	94.935	0.125	765.460	759.249	**346884.28**	**341258.43**	26000.0	7400.0	N/A	**51553140.47**	14121952.50	NA	<10
ANTIMONY									640.0	5.6	6.0	**NA**	NA	12074.58	<10
ARSENIC	5.000	150.0	340.0	1.000	150.000	340.000	**131349.64**	**303459.68**	10.0	10.0	10.0	**10064.65**	10064.65	10064.65	<10
BERYLLIUM											4.0	**NA**	NA	NA	<10
SELENIUM	2.500	5.0	20.0	1.000	5.000	20.000	**2265.86**	**15853.49**			50.0	**NA**	NA	NA	<10

Outfalls SW2 and SW3

There are no federal effluent guidelines for storm water discharges from the Signal Mountain Cement Company facility. The previous permit did not have effluent limitations for the facility's storm water runoff. All parameters were monitored on a "Report" only basis. Similarly, the new permit will not establish effluent limitations, but will require reporting of effluent characteristics at Outfalls SW2 and SW3. Certain "cut-off concentrations" will be established for each of the monitored parameters. These benchmark values (cut-off concentrations) were developed by the EPA and the State of Tennessee and are based on data submitted by similar industries for the development of the multi-sector general storm water permit. The cut-off concentrations are target values and should not be construed to represent permit limits. Monitoring of storm water runoff from Outfalls SW2 and SW3 will be required for Flow, Total Suspended Solids (TSS), and pH.

Parameters of Concern	Cut-Off Concentration [mg/L]
Total Suspended Solids (TSS)	***200***
pH (range)	***5.0 - 9.0***

Note: Sample values are from the Tennessee Storm Water Multi-Sector General Permit for Industrial Activities, Rationale, Part III, Table III-A: *Parameter Benchmark Values*.

According to the U.S. EPA "NPDES Permit Writer's Manual" (Office of Water, EPA-883-B-96-003, December 1996, Page 123), "grab" samples should be used when the quality and flow of the waste stream being sampled is not likely to change over time. Generally, for storm water runoff samples, a grab sample is considered adequate for effluents from holding ponds or other impoundments with a retention period of greater than 24-hours (Instructions - EPA Form 3510-2F: Application for Permit to Discharge Storm Water Associated with Industrial Activity, Item VII, General Instructions, Page I-3).

The division recognizes that a "first flush" sample would be the most accurate representation of the maximum daily value for various pollutants in the storm water runoff. Furthermore, storm water sampling requirements included in the TMSP require analysis of grab samples collected within the first 30 minutes (or as soon thereafter as practical, but not to exceed one hour) of when the runoff or snowmelt begins discharging. Therefore, the sample type for all storm water runoff parameters in the new permit will be grab. Every effort should be made to collect a "first flush" sample representative of the daily maximum values for sampled parameters.

IX. ANTIDEGRADATION

Tennessee's Antidegradation Statement is found in the Rules of the Tennessee Department of Environment and Conservation, Chapter 1200-4-3-.06. It is the purpose of Tennessee's standards to fully protect existing uses of all surface waters as established under the Act. Stream determinations for this permit action are associated with the waterbody segment identified by the division as segment ID# TN06020001001_1000. The division has made a water quality assessment of the receiving waters associated with the subject discharge(s) and has found the receiving stream to be neither an exceptional nor outstanding national resource water. Additionally, this water partially supports designated uses due to dioxin and polychlorinated biphenyls from contaminated sediments. The discharges from this facility

are not expected to contain these pollutants. The division considers the potential for degradation to the receiving stream from these discharges to be negligible.

X. PERMIT DURATION

The proposed limitations meet the requirements of Section 301(b)(2)(A), (C), (D), (E), and (F) of the Clean Water Act as amended. It is the intent of the division to organize the future issuance and expiration of this particular permit such that other permits located in the same watershed and group within the State of Tennessee will be set for issuance and expiration at the same time. In order to meet the target reissuance date for the Tennessee River (Chattanooga Area) watershed and following the directives for the Watershed Management Program initiated in January, 1996, the permit will be issued to expire in 2019.

APPENDIX 1

FACILITY DISCHARGES AND RECEIVING WATERS

OUTFALL 001	
LONGITUDE	LATITUDE
85-20-45	35-05-45

FLOW (MGD)	DISCHARGE SOURCE
0.615	Cooling Water
1.313	Stormwater runoff
1.928	TOTAL DISCHARGE- Non-storm water

RECEIVING STREAM DISCHARGE ROUTE			
Outfall 001 discharges to the Tennessee River at river mile 454.5			
STREAM LOW FLOW (CFS) ***	7Q10	1Q10	30Q5
	NA	5400.00	12000.00
(MGD)	NA	3491.10	7758.00

STREAM USE CLASSIFICATIONS (WATER QUALITY)				
FISH & AQUATIC LIFE	RECREATION	IRRIGATION	LIVESTOCK WATERING & WILDLIFE	DOMESTIC WATER SUPPLY
X	X	X	X	X
INDUSTRIAL	NAVIGATION			
X	X			

* Treatment: Sedimentation/Discharge

** Storm water runoff varies with storm event (Estimate was 2.5 MGD).

*** Reference: Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Law and Jess D. Weaver. Water Resources Investigations Report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority. Nashville, Tennessee, 1996, p. 66.

OUTFALL SW2	
LONGITUDE	LATITUDE
85-21-15	35-06-15

FLOW (MGD)	DISCHARGE SOURCE
varies	Storm water runoff
varies	TOTAL DISCHARGE

RECEIVING STREAM DISCHARGE ROUTE			
Outfall SW2 discharges to an unnamed tributary to the Tennessee River			
STREAM LOW FLOW (CFS) ***	7Q10	1Q10	30Q5
	NA	0.00	0.00
(MGD)	NA	0.00	0.00

STREAM USE CLASSIFICATIONS (WATER QUALITY)				
FISH & AQUATIC LIFE	RECREATION	IRRIGATION	LIVESTOCK WATERING & WILDLIFE	DOMESTIC WATER SUPPLY
X	X	X	X	X
INDUSTRIAL	NAVIGATION			
X	X			

*** Reference: Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Law and Jess D. Weaver. Water Resources Investigations Report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority. Nashville, Tennessee, 1996, p. 66.

OUTFALL SW3	
LONGITUDE	LATITUDE
85-20-30	35-05-30

FLOW (GPD)	DISCHARGE SOURCE
varies	Storm water runoff
varies	TOTAL DISCHARGE

RECEIVING STREAM DISCHARGE ROUTE			
Outfall SW2 discharges to the Tennessee River at river mile 454.5			
STREAM LOW FLOW (CFS)	7Q10	1Q10	30Q5
	NA	5400.00	12000.00
(MGD)	NA	3491.10	7758.00

STREAM USE CLASSIFICATIONS (WATER QUALITY)				
FISH & AQUATIC LIFE	RECREATION	IRRIGATION	LIVESTOCK WATERING & WILDLIFE	DOMESTIC WATER SUPPLY
X	X	X	X	X
INDUSTRIAL	NAVIGATION			
X	X			

*** Reference: Flow Duration and Low Flows of Tennessee Streams through 1992 by George S. Law and Jess D. Weaver. Water Resources Investigations Report 95-4293 prepared by the U.S. Geological Survey in Cooperation with the Tennessee Department of Environment and Conservation and the Tennessee Valley Authority. Nashville, Tennessee, 1996, p. 66.

APPENDIX 2

APPLICABLE EFFLUENT LIMITATIONS GUIDELINES

SIC GROUP 3241
40 CFR PART 411

SUBPART C - *MATERIALS STORAGE PILES RUNOFF SUBCATEGORY*

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS
TSS	Not to exceed 50 mg/L
pH	within range 6.0 - 9.0

Any untreated overflow from facilities designed, constructed and operated to treat the volume of runoff from materials storage piles which is associated with a 10-year, 24-hour rainfall event shall not be subject to the pH and TSS limitations stipulated in this section.

APPENDIX 3

PREVIOUS PERMIT LIMITS AND MONITORING REQUIREMENTS

PERMIT LIMITS

OUTFALL 001

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY		DAILY			
	AVG. CONC. (mg/l)	AVG. AMNT. (lb/day)	MAX. CONC. (mg/l)	MAX. AMNT. (lb/day)	MSRMNT. FRQNCY.	SAMPLE TYPE
FLOW	Report (MGD) *		Report (MGD) *		Continuous	Recoder
TOTAL SUSPENDED SOLIDS (TSS)	--	--	50	--	1/Week	Composite
pH **	Range 6.0 - 9.0				1/Week	Grab

* Flow shall be reported in Million Gallons per Day (MGD).
** pH analyses shall be performed within fifteen (15) minutes of sample collection.

PERMIT LIMITS

OUTFALL SW2

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY		DAILY			
	AVG. CONC. (mg/l)	AVG. AMNT. (lb/day)	MAX. CONC. (mg/l)	MAX. AMNT. (lb/day)	MSRMNT. FRQNCY.	SAMPLE TYPE
FLOW	Report (MGD) *		Report (MGD) *		1/Month	Estimate
TOTAL SUSPENDED SOLIDS (TSS)	--	--	Report	--	1/Month	Grab
pH **	Range 6.0 - 9.0				1/Month	Grab

* The permittee shall provide the date and duration (in hours) of the qualifying storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume of the discharge sampled. Flow shall be reported in Million Gallons per Day (MGD).

** pH analyses shall be performed within fifteen (15) minutes of sample collection.

PERMIT LIMITS

OUTFALL SW3

EFFLUENT CHARACTERISTIC	EFFLUENT LIMITATIONS				MONITORING REQUIREMENTS	
	MONTHLY		DAILY			
	AVG. CONC. (mg/l)	AVG. AMNT. (lb/day)	MAX. CONC. (mg/l)	MAX. AMNT. (lb/day)	MSRMNT. FRQNCY.	SAMPLE TYPE
FLOW	Report (MGD) *		Report (MGD) *		1/Quarter	Estimate
TOTAL SUSPENDED SOLIDS (TSS)	--	--	Report	--	1/Quarter	Grab
pH **	Report				1/Quarter	Grab

* The permittee shall provide the date and duration (in hours) of the qualifying storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume of the discharge sampled. Flow shall be reported in Million Gallons per Day (MGD).

** pH analyses shall be performed within fifteen (15) minutes of sample collection.

APPENDIX 4

HISTORICAL MONITORING AND INSPECTION

Outfall 001	Flow		TSS	pH	
Date	Monthly Average	Daily Max.	Daily Max.	Daily Min. Conc.	Daily Max. Conc.
	MGD	MGD	mg/L	SU	SU
07/31/2010	1.56	2.46	78	8.3	8.9
08/31/2010	1.48	2.30	130	8.7	9.5
09/30/2010	1.35	2.16	18	8.7	9.0
10/31/2010	1.55	3.67	34	8.2	8.8
11/30/2010	2.02	6.19	23	8.3	8.8
12/31/2010	0.99	2.73	14	7.9	8.7
01/31/2011	1.84	6.27	24	8.0	8.7
02/28/2011	1.43	2.53	13	8.7	9.0
03/31/2011	2.94	12.21	29	8.1	9.0
04/30/2011	2.78	9.96	25	8.4	9.0
05/31/2011	1.53	3.68	50	8.7	9.0
06/30/2011	2.00	2.71	31	8.4	8.8
07/31/2011	1.96	4.11	35	8.4	8.9
08/31/2011	1.42	1.86	30	8.6	9.0
09/30/2011	1.70	7.24	44	8.1	9.2
10/31/2011	2.60	5.38	7	8.2	8.7
11/30/2011	2.67	13.85	38	7.7	8.3
12/31/2011	1.96	3.98	37	8.1	8.6
01/31/2012	2.38	9.55	48	8.6	9.4
02/29/2012	2.53	8.99	31	9.5	10.1
03/31/2012	2.01	4.72	32	9.6	9.8
04/30/2012	1.31	2.07	14	9.6	9.8
05/31/2012	2.25	9.43	6	8.8	9.0
06/30/2012	1.53	3.02	7	8.8	9.0
07/31/2012	2.06	14.19	44	8.6	8.9
08/31/2012	1.28	1.94	20	8.7	9.0
09/30/2012	1.66	9.97	34	8.5	8.6
10/31/2012	1.00	3.40	21	8.7	9.0
11/30/2012	1.61	3.74	16	8.9	9.0
12/31/2012	1.93	4.99	25	8.7	8.9
01/31/2013	3.45	16.32	52	8.6	9.0
02/28/2013	2.40	4.02	22	8.7	9.0
03/31/2013	2.67	5.82	33	8.8	8.9
04/30/2013	3.62	9.34	33	8.5	8.9
05/31/2013	3.89	14.90	38	8.6	8.8
06/30/2013	2.46	5.32	6	8.6	9.0
07/31/2013	5.94	31.95	18	8.2	8.8
08/31/2013	2.84	10.75	57	8.7	9.0
09/30/2013	1.74	4.32	10	8.6	9.0
10/31/2013	1.29	1.96	13	8.5	8.8
11/30/2013	3.51	23.10	11	8.4	8.8
12/31/2013	1.75	4.98	26	8.7	8.9
01/31/2014	1.77	6.94	16	8.3	9.0
Standard Dev.	**0.92**	**6.07**	**22**	**0.4**	**0.3**
Minimum	**0.99**	**1.86**	**6**	**8.3**	
Maximum	**5.94**	**31.95**	**130**		**9.6**
Average	**2.15**	**7.19**	**30**	**8.5**	**9.0**
Permit Limit	**Report**	**Report**	**50**	**6.0**	**9.0**
Count	**43**	**43**	**43**	**43**	**43**

Outfall SW2	Flow		TSS	pH	
Date	Monthly Average	Daily Max.	Daily Max.	Daily Min. Conc.	Daily Max. Conc.
	MGD	MGD	mg/L	SU	SU
07/31/2010	0.12	0.12	1475	11.7	11.7
08/31/2010	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
09/30/2010	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
10/31/2010	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
11/30/2010	0.15	0.15	15	8.9	8.9
12/31/2010	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
01/31/2011	0.04	0.04	17	9.5	9.5
02/28/2011	0.03	0.03	22	9.3	9.3
03/31/2011	0.20	0.20	73	9.3	9.3
04/30/2011	0.52	0.52	15	9.2	9.2
05/31/2011	1.13	1.13	70	9.7	9.7
06/30/2011	0.06	0.06	5	10.3	10.3
07/31/2011	0.02	0.02	132	10.5	10.5
08/31/2011	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
09/30/2011	0.31	0.31	290	9.5	9.5
10/31/2011	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
11/30/2011	0.02	0.02	115	10.0	10.0
12/31/2011	0.26	0.26	29	9.6	9.6
01/31/2012	0.61	0.61	4	9.6	9.6
02/29/2012	1.08	1.08	24	8.2	8.2
03/31/2012	0.22	0.22	82	8.9	8.9
04/30/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
05/31/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
06/30/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
07/31/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
08/31/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
09/30/2012	0.63	0.63	31	8.9	8.9
10/31/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
11/30/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
12/31/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
01/31/2013	0.68	0.68	390	8.7	8.7
02/28/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
03/31/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
04/30/2013	0.14	0.14	45	8.4	8.4
05/31/2013	0.01	0.01	34	7.7	7.7
06/30/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
07/31/2013	0.22	0.22	4	9.0	9.0
08/31/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
09/30/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
10/31/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
11/30/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
12/31/2013	0.05	0.05	4	8.1	8.1
Standard Dev.	**0.34**	**0.34**	**322**	**0.9**	**0.9**
Minimum	**0.01**	**0.01**	**4**	**7.7**	
Maximum	**1.13**	**1.13**	**1475**		**11.7**
Average	**0.31**	**0.31**	**137**	**9.3**	**9.3**
Permit Limit	**Report**	**Report**	**Report**	**6.0**	**9.0**
Count	**42**	**42**	**42**	**42**	**42**

Outfall SW3	Flow		TSS	pH	
Date	Monthly Average MGD	Daily Max. MGD	Daily Max. mg/L	Daily Min. Conc. SU	Daily Max. Conc. SU
09/30/2010	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
12/31/2010	1.26	1.26	6	7.9	7.9
03/31/2011	0.20	0.20	4	8.0	8.0
06/30/2011	0.84	0.84	4	7.9	7.9
09/30/2011	3.14	3.14	6	7.3	7.3
12/31/2011	0.43	0.43	28	8.1	8.1
03/31/2012	0.39	0.39	4	7.8	7.8
06/30/2012	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
09/30/2012	1.02	1.02	197	7.6	7.6
12/31/2012	0.46	0.46	3	7.8	7.8
03/31/2013	0.69	0.69	6	7.5	7.5
06/30/2013	0.54	0.54	20	7.6	7.6
09/30/2013	No Dis.	No Dis.	No Dis.	No Dis.	No Dis.
12/31/2013	0.25	0.25	4	8.3	8.3
Standard Dev.	**0.83**	**0.83**	**57**	**0.3**	**0.3**
Minimum	**0.20**	**0.20**	**3**	**7.3**	
Maximum	**3.14**	**3.14**	**197**		**8.3**
Average	**0.84**	**0.84**	**26**	**7.8**	**7.8**
Permit Limit	**Report**	**Report**	**Report**	**6.0**	**9.0**
Count	**14**	**14**	**14**	**14**	**14**

APPENDIX 5

NEW PERMIT LIMITS AND MONITORING REQUIREMENTS

Description : External Outfall, Number : 001, Monitoring : Effluent Gross, Season : All Year

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Flow	Report	-	Mgal/d	Recorder	Continuous	Daily Maximum
Flow	Report	-	Mgal/d	Recorder	Continuous	Monthly Average
Nitrogen, Ammonia total (as N)	Report	-	mg/L	Grab	Quarterly	Value
Total Suspended Solids (TSS)	<=	50	mg/L	Grab	Weekly	Daily Maximum
pH	>=	6	SU	Grab	Weekly	Minimum
pH	<=	9	SU	Grab	Weekly	Maximum

* Flow shall be reported in Million Gallons per Day (MGD).
** pH analyses shall be performed within fifteen (15) minutes of sample collection.

Description : External Outfall, Number : SW2 and SW3, Monitoring : Effluent Gross, Season : All Year

Parameter	Qualifier	Value	Unit	Sample Type	Frequency	Statistical Base
Flow	Report	-	Mgal/d	Estimate	Monthly	Daily Maximum
Flow	Report	-	Mgal/d	Estimate	Monthly	Monthly Average
Total Suspended Solids (TSS)	Report	-	mg/L	Grab	Monthly	Daily Maximum
pH	>=	6	SU	Grab	Monthly	Minimum
pH	<=	9	SU	Grab	Monthly	Maximum

* The permittee shall provide the date and duration (in hours) of the qualifying storm event(s) sampled; rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff; the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event; and an estimate of the total volume of the discharge sampled. Flow shall be reported in Million Gallons per Day (MGD).

** pH analyses shall be performed within fifteen (15) minutes of sample collection.